



Natural Resource Management Program Overview

Introduction

The legislation that created the National Park Service mandates that the agency operate, maintain and protect the units of the National Park System such that two general objectives are achieved. These are:

... to protect and preserve the natural and cultural resources of the parks so they will be available to future generations ... and ... to provide for the public enjoyment of the parks ...

The park's Natural Resource Management Program is focused on achieving the first objective. This is accomplished through a wide variety of activities of park staff, cooperators and partners, and volunteers.

Management Needs

Preservation of the integrity of Shenandoah's natural resources hinges on efforts to combat conditions and activities that threaten that integrity. Conditions such as the presence of air pollutants, presence and expansion of exotic plants and insects, and the lack of natural resource information all diminish the quality of park resources and the ability to protect those resources. Human activities such as depreciative behavior in campgrounds, short cutting on trails, feeding wildlife, and poaching also compromise park resources. When threats, such as these, are combined with public health and safety issues related to resources, legal obligations associated with environmental compliance, and the desire to conduct prudent planning, they lead to the need for a sophisticated natural resource management operation.



Falcon restoration work.

Natural Resource Program Components

Because natural resource management activities at Shenandoah National Park are numerous and ecologically and scientifically complicated, those activities are grouped as major program components. Following are brief descriptions of each of those components.

Description of Biological and Physical Resources – The starting point for preservation of park resources is the development of an understanding of what natural resources are present in a park. Staff members at Shenandoah are in the process of gathering natural history information about the plants, animals, water, geology, and soils found in the park. They also gather data about the air quality and climate of the park. As this information is developed, it is posted on the web.

Natural Resource Inventories – In addition to the very fundamental information about the natural history and presence of a plant or animal in Shenandoah, staff work on improving understanding of species abundance and distribution. They also prepare species lists and collect specimens that vouch for the presence of a particular resource. These activities are grouped together and referred to as 'inventories'. Mapping and database development also occur under the auspices of the inventory program. Soils, geologic, and vegetation maps are prepared and reports on the condition of air, water, and geologic resources are written.

Resource Conditions and Trends – Inventory activities emphasize the description of natural resources at a single point in time. Condition and trend programs, often referred to as "Monitoring", emphasize tracking changes in resource conditions overtime. Conclusions regarding the status of park resources and whether or not they are remaining in excellent condition can be developed based on monitoring information.



Natural Resource Management Program Overview (continued...)

Stewardship Activities – As a result of inventory and condition and trend studies, park staff members frequently identify problems with park resources. The presence of exotic plants, elevated levels of ozone in the air, and trampling of rare plants are three examples of resource problems at Shenandoah. Park personnel engage in “Stewardship Activities” in an effort to correct these problems. These activities are wide ranging and include things like restoration of species that are rare or non-existent in the park like Peregrine Falcons, removal of exotic plants like Tree of Heaven and Mile-a-Minute weed, and reviews of applications for air pollution emission permits.

Research – Sometimes park staff does not fully understand a natural resource problem or does not know the best way to resolve a particular issue. In those cases, support is sought from the academic world and other agencies and organizations to conduct research directed at those issues. Furthermore, parks are ideal locations for research to be conducted because resource conditions are generally good or pristine and land use is not changing rapidly. Significant numbers of scientists approach the park each year with interests in conducting research in the park. Thus, the National Park Service supports an active research program.

Resource Education – In the course of gathering information about park resources and managing those resources, park staff improves scientific understanding. Many opportunities are identified to communicate those findings to the public. This is accomplished through close coordination with the park’s interpretive and education staff. Natural resource management personnel develop materials for brochures, exhibits, and for the web.

Planning and Compliance – The preservation and management of natural resources found within the parks of the National Park System are heavily influenced by two major functional areas – planning and compliance. Each park within the National Park System should have a broad General Management Plan that outlines general objectives and goals and lays out strategies for achieving those. Tiered off of the General Management Plans are more specific plans including the Comprehensive Interpretive Plan and the Resource Stewardship Strategy (formerly known as the Resources Management Plan). Finally, tiered below those plans is a set of action plans such as Fire Management Plans and Integrated Pest Management Plans. This latter tier is usually very detailed and specific. Park staff members charged with managing resources are heavily involved in the development of these plans and, in turn, use these plans to guide their activities.

In addition to planning documents, which guide the management of park resources and the development of park facilities, park staff members look to various pieces of environmental legislation to guide management decisions. Primary amongst those is the National Environmental Policy Act. This and other laws require the National Park Service to evaluate the impacts of management decisions, construction projects, and park operations; to consider alternatives to proposed actions; and to assess public comments. Specific procedures are often stipulated to assure that “compliance” with the spirit and intent of these laws is met. Resource management staff is charged with the responsibility of implementing the procedures associated with each of these laws.



Controlling woody vegetation in the Big Meadows area with prescribed fire.